

Notice of Allowability

Application No.

10/826,307

Examiner

Leon Flores

Applicant(s)

WU, CHENG-SHING

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/29/2007.
2. ☒ The allowed claim(s) is/are 2-4 and 6-14.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


DAVID C. PAYNE
SUPERVISORY PATENT EXAMINER

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Cheng-Kang Hsu (Reg. 61007) on 9/21/2007.

In the claims:

Claim 1 was cancelled.

2. (Currently Amended) The method of claim [[1]] 14, wherein the two peaks are generated by converting two adjacent said symbols into the frequency domain.
3. (Currently Amended) The method of claim [[2]] 14, wherein the powers of the two peaks are equal and the distance in between is half the length of the symbol.
4. (Currently Amended) The method of claim [[1]] 14, wherein the company peak is at a position of one cyclic extension from the peak.
13. (Currently Amended) The method of claim [[1]] 14, after the step of using the peak response to calibrate the extraction position of the sample in the signal, further comprising the step of repeating all the steps before it then followed by recovering the symbol timing of the signal.

Allowable Subject Matter

2. Claims 2-4, 6-14 are allowed.
3. The following is an examiner's statement of reasons for allowance: The art of record does not suggest the respective claim combinations together and nor would the respective claim combinations be obvious with:

Re claim 14, the further limitation of, *"a symbol timing recovery method for discrete multi-tone very high data rate digital subscriber line (DMT-VDSL) to recover the correct symbol timing of a signal containing a plurality of DMT symbols and cyclic extensions, the method comprising the steps of: extracting from the signal a sample equal in length to the symbol; converting the sample into the frequency domain and computing its channel frequency response; converting the channel frequency response into the time domain, obtaining two peaks; selecting one of the peaks and using the position and power of the peak to determine a company peak; using the company peak and a corresponding peak to determine whether the peak is a correct peak response; and using the peak response to calibrate the extraction position of the sample in the signal, thereby recovering the symbol timing of the signal, wherein the company peak is at a position of one cyclic extension from the peak and the position of the company peak L_1 is: $L_1 = L_0 - L_{CE}$ when $N/2 > L_0 > N/4$, and $L_1 = L_0 + L_{CE}$ when $L_0 \leq N/4$; where L_0 is the position of the corresponding peak, L_{CE} is the position of one cyclic extension, and N is the symbol length"*. Claims 2-4 & 6-13 depend on claim 14 above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leon Flores whose telephone number is 571-270-1201. The examiner can normally be reached on Mon-Fri 7-5pm Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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September 25, 2007


DAVID C. PAYNE
SUPERVISORY PATENT EXAMINER